

## introducing... singapore math

What's ripe for educational reform? Westtown School believes it's mathematics instruction in the elementary grades.

Along with many educators throughout the country, teachers and administrators at Westtown have looked with dismay at the results of a series of international assessments over the past 10 years that show American students ranking below those of most other industrialized nations in terms of math performance.

On the other hand, these same assessments reveal that Singapore is the top-performing nation for mathematics achievement. Singaporean 4<sup>th</sup> and 8<sup>th</sup> graders ranked first in the world in several such studies, most recently in 2007, while U.S. students consistently place toward the bottom, sometimes as low as 24<sup>th</sup> out of 29 participating countries.

Although Westtown students at all levels currently perform really well on standardized math tests, its faculty re-evaluates all curricular areas on a continual basis. So as they did the research about improving math instruction, Westtown teachers wondered what Singapore does to develop such strong math students.

It turns out that Singapore's young people began to show marked improvement when a new national math curriculum was introduced in the 1980s, one that consistently emphasized problem-solving and a deep understanding of concepts. In a Singapore Math curriculum, "less is more," with clear prioritization of the most important skills. For example, American math textbooks at the elementary level may teach 50 different topics while Singapore Math focuses on only 14 – but it teaches them really well and expects mastery from *all* students.

How does Singapore Math instruction work? Lessons move from the very concrete – where students move around the room taking measurements or working with



*fourth grade math - a game works with five and six-figure numbers*



*third grade math - markers represent hundreds and thousands*

actual money – to pictorial representations of these same activities, and finally, to abstract problem-solving. Young children discover mathematical concepts for themselves, resulting in a solid understanding of the “whys” of math. This aligns well with Westtown’s own educational philosophy of not merely presenting information but also *teaching the mind to think*.

In Singapore Math, there’s a well-articulated scope and sequence, minimizing the need for extensive drill and repetition since skills that have already been taught are taken up and reinforced as new learning is introduced. Finally, an emphasis on word problems encourages students to rely on the meaning of the situation presented, rather than looking for “clue words” as is often the case in traditional American math instruction.

After extensive research and consideration of many different math programs, Westtown has adopted Singapore Math for use in its Lower School beginning in September 2010. Although one of the first schools in the Delaware Valley to begin teaching Singapore Math, Westtown joins a growing number of public and independent schools nationwide that have adopted the program with extremely positive results.

According to Lower School Principal Annette Hearing, “Our teachers are so excited about this new program! They’ve been working with the Singapore Math materials since last spring and all of them have been to training workshops and visiting other schools that already use the curriculum. It’s a big change for us, but we’re eager for school to start so we can begin actually teaching it. And we’re looking forward to laying the strongest mathematical foundation possible in the elementary grades so our students will be even better prepared for advanced math courses in Middle and Upper School.”



*first grade math - writing numerals*